

Remarks

The above amendments and these remarks are responsive to the Office Action mailed August 24, 2005. Applicants thank the Examiner for carefully considering the subject application. With entry of this amendment, claims 1-26 are pending. No new matter has been added by these amendments.

§ 101 Rejections

First, applicants respectfully traverse the provisional rejection of claims 1-11, 13 and 19-26 under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-11, 13-20 and 21 of copending Application No. 10/647,520 ("the '520 application"). The MPEP states that a test for double patenting under 35 U.S.C. § 101 is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the other patent or application. MPEP § 804(II)(A) (citing In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)). The MPEP further states that if there is an embodiment that falls with the scope of one claim but not the other, then identical subject matter is not defined by both claims and statutory double patenting does not exist. MPEP § 804(II)(A).

The provisional rejection of claims 1-11 is improper under 35 U.S.C. § 101 at least for the reason that an embodiment could literally infringe any of claims 1-11 of the present application while not literally infringing claim 1 of the '520 application. Claim 1 of the '520 application as amended recites, in part, "a plurality of vanes disposed upstream of an exhaust pipe outlet, said vanes extending from an inner surface of said exhaust pipe and spaced apart from one another, said vanes configured to reduce turbulence in said exhaust gas pulses passing through said exhaust pipe outlet to reduce noise at said exhaust pipe outlet."

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In contrast, claim 1 of the present application as amended reads, in part, “a plurality of vanes extending from an inner surface of said exhaust pipe and spaced apart from one another and disposed upstream of a discontinuity of said exhaust pipe, said vanes being oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise generated at said exhaust pipe discontinuity.”

Given the differences between these two claims, an apparatus comprising a plurality of vanes disposed upstream of a discontinuity other than an exhaust pipe outlet may literally infringe claim 1 of the present application, but not may not infringe claim 1 of the ‘520 application. Therefore, because an embodiment that falls within the scope of claim 1 of the present application does not fall within the scope of claim 1 of the ‘520 application, claim 1 of the present application and claim 1 of the ‘520 application do not claim the same invention under 35 U.S.C. § 101. Likewise, dependent claims 2-11 of the present application include all of the elements of claim 1, and therefore also do not claim the same invention as claims 1-11, or any other claims, of the ‘520 application. For at least these reasons, the statutory double patenting rejection of claims 1-11 is improper, and should be withdrawn.

Next, the provisional rejection of claims 13 and 19-25 under 35 U.S.C. § 101 for statutory double patenting is also improper for at least the reason that an embodiment could infringe claim 13 or 19-25 of the present application without literally infringing any of claims 13 or its dependent claims of the ‘520 application. Claim 13 of the ‘520 application as amended reads, in part, “an air diffuser disposed upstream of an outlet of said exhaust pipe, said diffuser having an outer wall defining an internal bore communicating with said exhaust pipe, said diffuser further including a plurality of vanes extending from said wall and spaced apart from

one another, said vanes configured to reduce turbulence in said exhaust gas pulses exiting said exhaust pipe outlet to reduce noise at said exhaust pipe outlet.”

In contrast, claim 13 of the present application reads, in part, “an air diffuser disposed upstream of a discontinuity of said exhaust pipe, said diffuser having an outer wall defining an internal bore communicating with said exhaust pipe, said diffuser further including a plurality of vanes extending from said wall and spaced apart from one another, said vanes being oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise at said exhaust pipe discontinuity.”

Given the differences between claim 13 of the present application and claim 13 of the ‘520 application, an embodiment comprising air diffuser located upstream of a discontinuity other than an exhaust pipe outlet, may literally infringe claim 13 of the present application but not claim 13 of the ‘520 application. Therefore, claim 13 of the present application and claim 13 of the ‘520 application do not claim the same invention under § 101. Furthermore, dependent claims 19-25 of the present application include all of the elements of claim 13, and therefore also do not claim the same invention as any of claims 13 or 14-20 (or any other claims) of the ‘520 application. Therefore, for at least these reasons, the statutory double patenting rejection of claims 13 and 19-25 is improper and should be withdrawn.

Next, the provisional rejection of independent claim 26 of the present application is also improper under 35 U.S.C. § 101 for similar reasons as noted above. Claim 21 of the ‘520 application as amended reads, in part, “flowing said exhaust gas pulses through a plurality of vanes extending from an inner surface of said exhaust pipe to reduce turbulence in said exhaust

gases flowing past said vanes and out of a downstream outlet of said exhaust pipe to reduce noise at the downstream outlet of said exhaust pipe.”

In contrast, claim 26 of the present application as amended reads, in part, “flowing said exhaust gas pulses through a plurality of vanes extending from an inner surface of said exhaust pipe in an orientation generally parallel to a flow of said exhaust gas pulses to reduce turbulence in said exhaust gases flowing past said vanes to reduce noise generated at a downstream discontinuity in said exhaust pipe.”

Given the differences between claim 21 of the ‘520 application and claim 26 of the present application, an embodiment that comprises flowing exhaust gas pulses through a plurality of vanes located upstream of discontinuities of the exhaust pipe other than an outlet, may literally infringe claim 26 of the present application but may not literally infringe claim 21 of the ‘520 application. Therefore, claim 21 of the ‘520 application and claim 26 of the present application do not claim the same invention under § 101. For at least this reason, the statutory double patenting rejection of claim 26 is improper and should be withdrawn.

§ 102 Rejections

Applicants respectfully traverse the rejection of claim 1 as anticipated by Nakase et al. Claim 1 is not anticipated by Nakase because Nakase does not disclose all of the elements of claim 1. Nevertheless, applicants herein amend claim 1 to recite a plurality of vanes extending from an inner surface of said exhaust pipe and spaced apart from one another and disposed upstream of a discontinuity of said exhaust pipe, said vanes being oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise generated at said exhaust pipe discontinuity.

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In contrast, Nakase does not disclose, for example, a plurality of vanes extending from an inner surface of said exhaust pipe and spaced apart from one another and disposed upstream of a discontinuity of said exhaust pipe. Instead, Nakase discloses an apparatus for preventing flow noise associated with a throttle valve. All embodiments of the apparatus of Nakase are disclosed as being located at the downstream side of a throttle valve. For example, Nakase discloses at col. 2, ll. 41-59, that “the present invention either provides a pair of means for imparting resistance to flows . . . at the downstream side of the throttle valve . . . or otherwise provides, at the downstream side of at least one of the pair of clearances, a means for acting on the flow of air passing through the clearance . . .” For at least this reason, amended claim 1 is not anticipated by Nakase. Furthermore, dependent claims 6, 7 and 9-12 include all of the elements of independent claim 1, and are therefore not anticipated by Nakase for at least the same reasons as claim 1.

Likewise, applicants also respectfully traverse the rejection of claim 1 as anticipated by Kim. Kim discloses, at col. 3, ll. 59-64, an air swirling device positioned at the exhaust manifold entrance for preventing backpressure. Kim does not disclose vanes oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise generated at said exhaust pipe discontinuity. Instead, Kim shows vanes oriented at an angle to a direction of a flow of exhaust (Figs. 3A and 3B) that are configured to increase a swirl of the exhaust (col. 3, ll. 59-64), rather than to reduce turbulence. For at least this reason, amended claim 1 is not anticipated by Kim. Furthermore, dependent claims 3 and 5 include all of the elements of independent claim 1, and are therefore not anticipated by Kim for at least the same reasons as claim 1.

Next, applicants respectfully traverse the rejection of claim 13 as anticipated by Nakase

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and Kim. Nevertheless, applicants herein amend claim 13 to recite an air diffuser disposed upstream of a discontinuity of said exhaust pipe, said diffuser having an outer wall defining an internal bore communicating with said exhaust pipe, said diffuser further including a plurality of vanes extending from said wall and spaced apart from one another, said vanes being oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise at said exhaust pipe discontinuity. In contrast, as described above for claim 1, Nakase and Kim do not disclose, for example, an air diffuser disposed upstream of a discontinuity in an exhaust pipe, said diffuser including a plurality of vanes oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise at said exhaust pipe discontinuity. For at least this reason, claim 13 is not anticipated by Nakase or Kim. Furthermore, claims 14-18, 20, 22-23 and 25 depend from and include all of the elements of claim 13, and are therefore also not anticipated by Nakase or Kim for at least the same reasons as claim 13.

Applicants also respectfully traverse the rejection of claim 26 as anticipated by Nakase and Kim. Nevertheless, claim 26 is amended herein to recite flowing said exhaust gas pulses through a plurality of vanes extending from an inner surface of said exhaust pipe in an orientation generally parallel to a flow of said exhaust gas pulses to reduce turbulence in said exhaust gases flowing past said vanes to reduce noise generated at a downstream discontinuity in said exhaust pipe.

In contrast, as described above for claim 1, neither Nakase nor Kim discloses flowing said exhaust gas pulses through a plurality of vanes extending from an inner surface of said exhaust pipe in an orientation generally parallel to a flow of said exhaust gas pulses to reduce

turbulence in said exhaust gases flowing past said vanes to reduce noise generated at a downstream discontinuity in said exhaust pipe. For at least this reason, claim 21 is not anticipated by Nakase or Kim, and the rejection of claim 21 as anticipated by Nakase or Kim should be withdrawn.

§ 103 Rejections

Applicants respectfully traverse the rejection of claims 2, 4, 8, 19 and 24 under 35 U.S.C. § 103(a) as obvious over Nakase or Kim for at least the reason that neither Nakase nor Kim, alone or in combination, discloses or suggests all of the elements of any of these claims.

First, claims 2, 4 and 8 depend from and include all of the elements of amended claim 1. As described above, neither Nakase nor Kim discloses, for example, the element of claim 1 of a plurality of vanes extending from an inner surface of said exhaust pipe and spaced apart from one another and disposed upstream of a discontinuity of said exhaust pipe, said vanes oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise generated at said exhaust pipe discontinuity. Nakase and Kim also do not suggest this element. Kim discloses a device configured to swirl exhaust, and therefore suggests that it is desirable to contribute to the turbulence of an exhaust flow. Likewise, Nakase discloses solving its recognized problem via means located *downstream* of the throttle valve, rather than upstream of an exhaust pipe discontinuity. Therefore, both Kim and Nakase fail to disclose or suggest all of the elements of claim 1, and thus of dependent claims 2, 4 and 8.

Next, claims 19 and 24 depend from and include all of the elements of claim 13. As described above, neither Nakase nor Kim discloses, for example, the element of claim 13 of an

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air diffuser disposed upstream of a discontinuity of said exhaust pipe, said diffuser having an outer wall defining an internal bore communicating with said exhaust pipe, said diffuser further including a plurality of vanes extending from said wall and spaced apart from one another, said vanes oriented generally parallel to a direction of flow of said exhaust gas pulses and configured to reduce turbulence in said exhaust gas pulses flowing past said vanes to reduce noise at said exhaust pipe discontinuity. Furthermore, neither Nakase nor Kim suggests this element. As described above, Kim suggests swirling an exhaust flow and therefore contributing to exhaust flow turbulence. Nakase likewise solving its recognized problem via means located *downstream* of the throttle valve, rather than upstream of an exhaust pipe discontinuity. For at least these reasons, the rejection of claims 2, 4, 8, 14 and 19 as obvious over Nakase or Kim is improper, and should be withdrawn.

Based on the foregoing comments, the above-identified application is believed to be in condition for allowance, and such allowance is courteously solicited. If any further amendment is necessary to advance prosecution and place this case in allowable condition, the Examiner is respectfully requested to contact the undersigned by fax or telephone at the number listed below.


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Please charge any cost incurred in the filing of this Amendment, along with any other costs, to Deposit Account No.06-1510. If there are insufficient funds in this account, please charge the fees to Deposit Account No. 06-1505. A duplicate copy of this sheet is enclosed.

CERTIFICATE OF FACSIMILE

I hereby certify that this correspondence is being sent via facsimile to the U.S. Patent and Trademark Office at (571) 273-8300 on November 14, 2005.



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